

High Performance scientific computing

Assignment 1- Comparision of matrix

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1 Introduction

This code is written for assignment 2 of course High Performance Scientific Computing. It shows the performance of openMp, mpi and single thread matrix multiplication. It consist of three exeutable

- mpi_main: uses mpi
- main: single thread
- oMpMain: uses openMp

1.1 Running Instruction

For generating the report see README.md The results are generated for report folder

2 Computer Spec

- Name: ASUS E402M
- Processor: Intel BYT-M 2Core 2840 up to 2.58Ghz
- Ram memory: 2gb

- OS: Arch Linux
- Cache: 1mb

3 Result

It can be concluded the the Mpi is the fastest with the speed of around 1.7 for a dual core processor. For OpenMp it was around 1.6. See the plot below that gives the idea about speed up for all the processes.

As I tested it only one time the speed up differ for various cases. The first plot show the n vs time taken plot. The lower n are invisible because of very large n. The second plot is log log version same plot.



